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Queen and Retinue

Ross Hutchins of the Miss. State Plant Board who furnished the pictures for the story about Mississippi in November, "Mississippi Specials," also presents this cover picture, a very fine composition. Ross is the Entomologist for the Plant Board and he also is a photographer with a business of his own called "Nature in Pictures."

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Greetings

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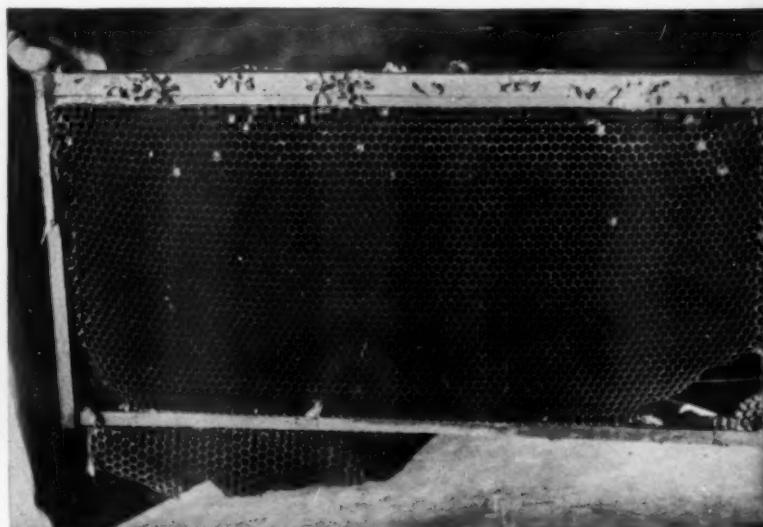
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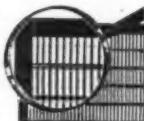
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Commercial

SHADE FOR BEES

CHARLES D. OWENS*

In the Southwest it is a common practice to build artificial shades for bees when there is no natural shade. Many beekeepers believe that colonies under shade produce more honey, that combs do not melt down in the hive, and that the queens are more productive. Many different materials have been and still are being used for shade cover. Some give a solid shade, and others provide partial shade. Then there are beekeepers who do not believe that shade offers enough advantage to pay for the construction of artificial shades. Where bees are placed in a field for pollination, artificial shades are seldom used because they have to be removed after pollination and beekeepers believe that they cannot afford the expense of building and moving them for the short period of protection.

The heat load on a hive comes from three sources - the surrounding air temperature, the radiation from the sun and radiation of heat from the

*Agricultural Engineer, Farm Electrification Research Branch, Agricultural Engineering Research Division, Agricultural Research Service, U. S. D. A.

ground and other objects. Air temperatures cannot be controlled economically but the other two can be reduced. Shade prevents direct radiation from the sun, and use of reflective paints will reduce the amount of radiation absorbed by the hive.

When bare ground is in the sun its surface temperature rises above air temperature and will radiate the heat to surrounding objects. Vegetative growth and shade will reduce the ground temperature. The ground temperature in the sun at Tucson was recorded at 157°F. while the ground in the shade was 100°F. This caused a difference in temperature, as noted later, between colonies facing south and those facing north. Shade temperature measurements showed that the hive in the shade was about 5°F. cooler than one in the sun, but there was little difference between complete shade and 75 per cent shade. In fact, the temperature difference between colonies facing north and south under a shade was as great as between types of shades.

Shade studies conducted with livestock have disclosed measurable differences in animal production among

various sunshade materials. Tests were set up in 1957 to determine the difference in production of colonies under different shade conditions. The shades were constructed near agricultural crops, 7 feet high, 6 feet wide and 36 feet long to cover 10 colonies. The shade material extended down on each end of these shades to prevent early and late sun effects on the end colonies. Ten colonies each were placed under solid shade (aluminum), partial shade (75 per cent—wooden shade fence) and in full sun exposure.

The first test was at Yuma, Arizona. In 1958, tests were conducted both at Yuma and Maricopa. Weekly weights of colonies and daily temperature records were recorded. Table 1 summarizes the air temperatures at the two locations.

Colonies under solid shade (aluminum) showed an average net gain of 18.9 pounds over those under partial shade (slatted) and 41 pounds over those under full sunlight. Partial shade produced 22.1 pounds gain over those without shade. The low production at Yuma in 1958 can be attributed more to the poor queens



A commercial beekeeper's shade in the desert.



Shade materials being checked for temperature effects on hives.

Table 1. Extremes and averages of air temperatures during tests (in degrees Fahrenheit).

Outdoor temperature	Location and date		
	Yuma 1957 5/27 to 9/14	Yuma 1958 5/28 to 9/28	Maricopa 1958 5/13 to 9/7
Highest maximum	119	117	116
Lowest maximum	82	84	84
Average maximum	104.3	104.2	101.8
Highest minimum	90	80	82
Lowest minimum	58	45	50
Average minimum	71.9	68.2	69.9
Average temperature for season	88.3	86.2	85.8

The average gain per colony in pounds of honey for treatment and location for these two years is shown in Table 2.

Table 2. Average gain vs. location and treatment.

Location	Treatment		
	Solid shade - Aluminum	Part shade - Slatted fence	Open
	Pounds	Pounds	Pounds
Yuma, 1957	111.0	78.3	67.9
Yuma, 1958	53.7	41.2	10.9
Maricopa, 1958	100.7	89.3	63.8
Average gain/colony	88.5	69.6	47.5

that were introduced in the spring than to a poor honeyflow.

Queen losses were not recorded in 1957 but in 1958 queens lost in colonies in the open did not successfully requeen themselves by supercedure. Five queens were lost in the open, 2 under slatted shades and 1 under aluminum shade. At Maricopa, 4 queens were lost in the open and none under either class of shade. At Maricopa all colonies of sufficient strength were divided the following spring. The original 10 colonies under each treatment with these divisions left a total of 9 colonies in the open, 16 under the slatted shade and 19 under the aluminum.

The increases in production and in the number of colonies strong enough for division plus the reduction in queen losses due to shade would make artificial shades profitable in high temperature locations. The economic gains for one season would exceed the cost of materials and labor used in constructing them. The minimum temperature at which this difference would be noted is unknown to date, but it might be expected that proportional gains would result whenever maximum temperatures above 95 degrees regularly prevail for long periods of time.

Total shade is best and there are many materials that can be used to provide it with about equal results. Galvanized iron (preferably painted white on top), aluminum, plywood,

hay (6-inch depth), or a double layer of black polyethylene film can be used. A material providing partial shade will give protection approximately proportional to the per cent shade it provides. Shades should be high enough for the beekeeper to work under - about 7 feet - and they should run east and west with shade material down on each end. The south and north side of shade should project sufficiently to give colonies full shade cover during the season of high temperatures. At Tucson a 7-foot high shade should project at least 2 feet on the south and about 1 foot on the north. Of course, this varies with the latitude because the sun's angle also changes. The southern projection will need to be increased in more northern latitudes.

Preliminary tests under partial shade have been made on the temperature effect of color of hive paints (white, aluminum, yellow). These have shown the unpainted hive to be about four per cent warmer than a painted hive. The results obtained show that colonies will benefit with any additional cooling in a high temperature location. It is evident that the beekeeper will benefit by having well painted hives placed in shade, natural or artificial during the months of high temperature. A further gain will be obtained by choosing locations that provide green vegetation to reduce the radiation from the ground onto the hives.

Some Cost Facts In Producing Bees

by Whitman Coffey

If package bee buyers think the price of bees is high, it might be helpful to reflect on the cost of the component parts. I have before me the price of feeder cans that go into the package. In 1946 the price of these cans was \$34.80 per thousand. This price has increased steadily until now it is \$76.24 per thousand. The wooden parts and wire of cages have about doubled in price since 1946. Every beekeeper knows about the price increases in bee supplies and equipment. Labor costs have more than doubled. The price of gasoline has about doubled. There has been no increase in the price of bees and honey since 1946. Obviously the bee and honey industry is entitled to some substantial increases in price in order, let us say, to take the slack out of our trousers to say nothing of "our fair share of the national income" as the welfare staters say.

Texas

Honey for the School Lunch Program

The United States Department of Agriculture recently asked for bids from packers for processing about two million pounds of honey acquired by the Commodity Credit Corporation under the 1959 Honey Price Support Program.

The processed honey will be distributed to School Lunch Programs and other eligible outlets. The honey acquired by CCC is only about 11 per cent of the 17,499,330 pounds placed under the program, or about $\frac{1}{4}$ per cent of the 1958 crop.

According to A. A. Greenwood, Chief, Wage, Price, and Commodity Programs Branch, U. S. D. A., the industry did a very good job in handling the marketing of the second largest crop on record.

North Dakota

According to David Noetzel, entomologist at the North Dakota Agricultural College, the honey crop this year is likely up to 3.5 million pounds, with the largest number of colonies in the state's history, over 30,000. The average production per colony is about 124 which puts the state about the third in the country.

Ernest Fair
Colorado

"WAY BACK WHEN" IN ONTARIO

by D. G. HOLTERMAN

In the days "way back when" southern Ontario was a good spot for white honey, when J. L. Byers, at Markham, Mr. Kouse at Streetsville, Morley Pettit at Georgetown, and R. F. Holterman were prominent bee-men. R. F. Holterman had 1000 colonies and he occasionally shipped twelve carloads of excellent honey to western Canada in one year. You could have 100 colonies in one location. Those were the days! Now honey is being shipped east over the same route.

Mr. Holterman had apprentice students to learn what they could in one summer's lessons. At that time queens were clipped, come spring and every hive was examined once a week during the honeyflow. Queens were confined by queen excluders to the bottom story and this meant that all the honey had to be lifted each time. The ambition was to have all hives like the best one. Students had some discussion about that.

Increase was made with southern queens along with emerging brood in early July and strengthened the next time around. Wintering was done in quadruple cases packed with forest leaves. The bees wintered well but no spring sun could ever warm the cluster because of the heavy insulation.

Bee meetings waxed hot over wintering methods while diplomacy went around the corner for a spell. It usually simmered down to the fact that a young queen with plenty of stores and young bees would winter even in a bottomless hive in an apple tree. As diplomacy returned there was even more discussion about the kind of tree!

But winter loss is still mostly last summer's poor management. Morley Pettit made a statement once that each colony should have a young queen introduced during fruit bloom in Ontario and New York. We thought that was because he had moved to Georgia and had queens to sell. However now that fact is accepted because a young queen solves the swarming problem and makes a rousing colony with lots of morale. The factors that induce morale were little known in those days and not yet considered enough. Now, of course, trucks make it possible to spread a few thousand colonies over a large area to get large volume of honey from half the total number and with a minimum of care.

European foulbrood hit southern Ontario about 1918 and the old black bees were gradually weeded out. Northern bees go through a period of weakness during spring that makes them victims of E.F.B. There was also some confusion between E.F.B. and A.F.B. Now A.F.B. is very scarce in Ontario and E.F.B. is almost a thing of the past with two-story colonies and lots of pollen. A.F.B. never dies in storage and the occasional outbreak is usually caused by a beginner bringing out an old

hive whose history has long since been forgotten.

The most effective part of inspection work is the education provided by friendly visits. 4-H Clubs and Junior Farmers have a receptive attitude toward the inspector and now so do the older folks. The old time inspector started out Monday morning with his horse and buggy and he returned Saturday. Some of those men could smell disease when they opened the front gate, so they said, and they were suspected of leaving a little seed for next year's work. That was of course "way back when." Ontario



LOADING HONEY IN ARGENTINA

Barrels! And that helper on top just might slide off. Photo from A. F. Hernandez, Alberti.



SCAFFOLD YARD IN FLORIDA

On Apalachicola River where tupelo abounds. Yard belonged to Joe Whitfield. House in center is extracting house. Extracting is done on top floor and honey goes into a big vat on bottom floor for settling and to be drawn into barrels, then loaded on barge. Finally loaded on trucks for shipment. Bees then have to be moved out to summer locations—G. E. Tanner, Bristol, Florida.



The Sideline



SIDELINER SELLING

by RICHARD TAYLOR

Bee books tell us how to get a good crop of honey, but they seldom say much about selling it. I live in an area which, according to statistics, has the least interest in honey in the nation, yet with my fifty colonies I can no longer supply the demand. It was a problem at first, for I was unaccustomed to the role of salesman and not eager to assume it, but now, having learned a few principles from experience, the selling takes care of itself. Here are some suggestions.

The pack.—It must be neat, attractive and distinctive. Avoid a flamboyant label, use one in which the local aspect catches the eye. People pick the more expensive, local honey over commercial honey almost every time. I have "Rhode Island Wildflower Honey" printed on my label, which immediately distinguishes it from any other. (Cultivated honey plants in R.I. are negligible, so I made a virtue of necessity here.) Cleanliness goes without saying. Do not permit scum on the surface. Add enough amber honey to set it off from commercial honeys, and give it a "homegrown" look. Honey that goes to grocers must be preheated to retard granulation, for if a jar ever granulates in a housewife's refrigerator you have lost a customer. But be sure you know what you're doing before heating honey.

The grocer.—Remember that he is your customer, and is always right. Treat him with courtesy and respect. If he is a small timer and wants to pay you after the honey is sold, let him. If he has granulated honey from another source on his shelf, offer to swap yours for it, jar for jar. You don't make anything that way, but you don't lose either, and you win a customer. If he drops a section of your comb honey and smashes it, it isn't your fault—but give him another without his asking for it. Let him know that if he ever finds himself with an excess of your honey, you'll buy it back. You risk nothing that way, and neither does he; there is very little chance that you'll have to buy it back anyway. Keep him supplied. Don't sell him a case, and then

when he needs more, announce that the last drop has been sold; he may be impressed, but he won't like it. If he wants to start with only a half dozen jars, let him; it's a beginning. Give him a bit of a price break if he keeps a jar or two on the meat counter or near the cash register the first week or two. Eventually he'll probably ask you to keep the shelf supplied without asking.

The price.—Fix a generous minimum net price for yourself, and stick to it. Don't cheat yourself, don't try to cut out your beekeeping friends, and don't try to compete in price with commercial honeys. My net, after cost of jar, labels, etc., is 25c a pound, 50c in fancy dispensers, and 20c in sixties, unprocessed, and the price is going up next fall. Looking at it from this angle, you need not envy the commercial men who take 10-12c. Charge the same wholesale price to all, regardless of their mark-up. Charge the regular retail price to neighbors who come to the door, but give them something extra—comb honey seconds, etc. They appreciate this "something for nothing" a lot more than a bargain price. Never be afraid you're going to end up with a surplus and get panicky to unload—*honey keeps*, and sooner or later you'll need that extra. The beekeeper has about the smallest storage problem of any agricultural producer.

Getting an outlet.—Independent grocers are your best chance, especially the larger stores, and all the better if they are patronized by wealthly people. This rule never fails. Get there early, with some of last year's crop, not after they are well supplied. Try to see the grocer on a weekday morning, not a busy Saturday afternoon. If he tells you to come back in a couple of weeks, make it a point to go back—and pick up a few groceries when you do. If the manager isn't in, leave a half dozen jars in a box, prices marked, with a note saying you'll be back in a day or two to see whether he's interested, and asking him to take a jar home. Wait four or five days, when the jars will probably be sold, and he'll be in a

mood to get more, having already made a small profit. Never use "pressure"—it is not only a courtesy, but ineffective. After all, if his customers want your honey, he'll want it, and if they don't, you don't want him to stock it. Fruit stands, especially if visited by tourists, are a good bet in the summer, but don't wait until July to go see them; have some of last year's crop on hand. "Offbeat" outlets are rarely worthwhile, but sometimes worth trying, especially if your honey is displayed. I once found a gift shop called "The Bee Hive," and the owner was most reluctant to stock honey, which he said wasn't his trade. But he put out a few jars, and has since become one of my best and steadiest customers. I also once had a flurry of business when my barber left a jar on the shelf with the hair oils, and everyone who sat down in his chair asked where he got it! Church bazaars in the fall are a good bet, especially for any fancy Christmas items. Give the ladies at the booth each a jar, and one for the minister, when you pick up what wasn't sold. This is the one place, incidentally, that you can compromise on your price.

The product.—I mention this last, because it is the most obvious, yet it is by far the most important. *Your honey has got to be good.* Don't worry about the color, unless it is *very* dark; in fact, amber is best for your trade. But never let a jar go with the least off flavor; it will cost you ten times more than you make, because your only advertising is the word of mouth of purchasers. If you have any doubt, have your neighbors try it and give a frank opinion. If you have honey that is good, but different from your usual honey, write "autumn honey" or something on the cap, to show that you realize that it's different.

Good honey sells itself, you need only to introduce it to outlets. To do this, you don't need to be a great salesman. You need only courtesy and a pride in your work.

Rhode Island

A CLUB HIVE IS NOT ENOUGH

by CARL M. TEASLEY

It's just a start. It only shows to the bee club or bee association what one hive of one race of bees can do in one location in one year.

Get the whole picture. Get one hive of each of the three leading races of bees and check them against each other. Then go deeper into the subject and get two or even three colonies of each race of bees and check each lot. Then go into hybrids. But continue experiments year in and year out.

Don't go into the honey production side of the picture alone. Check the winter store consumption of one race against another. Check the gentleness of the bees. Face the hives different—east, west, north, south, and see if it makes a difference in their wintering and work.

Catch swarms and see if each one builds up on an equal basis with help or with no help. Use hive bodies or half depth supers to get your honey crop in. See the difference between a drawn comb crop and a foundation crop. And if brood diseases appear use antibiotics and educate yourself and your members.

The Chattanooga Area Beekeepers' Association does all these things and more and it all goes to prove that an association is not just a social organization but an educational medium as well. We have a happy organization of large and small beekeepers. Some good commercial men

and amateurs. More numbers now than any time in 15 years.

We believe it came about by concentrating on the experimental apiary as the hub to turn our beekeeping wheel on. We started it in 1954 with 9 donated colonies, ownership to each hive retained by the donor, and now have 22 colonies owned by the association. No more hives in the yard on a one year donated basis, that ceased in 1957. Now it's all for the good of everyone, net profits take care of the purchase of new equipment and, fingers crossed, maybe a big new clubhouse in the future.

Honey crops? Well, last year gave a 67 pound average for the yard against a state average of 19 pounds. Net profit \$139.00. This year will more than top that.

Best colony production was by a Caucasian hybrid. It's best to let the poundage remain a secret.

Interest is keen at present on the Midnight strain under test.

A test this year was made with two leading weed killers. So far a grass cycle works best on grass.

Your association, too, can have an experimental bee yard. Start with one, then grow. Let it become an idea, then one ideal, then reality.

Of course, a few will think it is competition against one's self, but this is small thinking. It is a way of helping each other to progress in beekeeping without the binding cost

of finding out things alone.

Each association needs an experimental apiary. Start one in yours. Tennessee

Really Going to Town

Few beekeepers can equal the Ault Bee Farms, Weslaco, Texas, for publicity. We have two full page advertisements from the Weslaco News as examples. One features National Honey Week and gives honey recipes; discusses the use for bees for pollination; gives facts about honey in athletics (from Canadian Sports College), and lists the vitamins in honey. And final notes about Ault's royal jelly and honey.

The second full page features the use of royal jelly and honey with some testimonials from users, including Chile's President Carlos Ibanez, and attorney Hubert Faulk of El Paso. It concludes with a list of the new officers of the Rio Grande Valley Beekeepers Association.

Antibiotics in British Columbia

The British Columbia Apiaries Act has recently been revised and, among other things, it provides for the use of recognized anti-bacterial agents as a disease preventive when employed under the supervision of the Minister of Agriculture. (From "Bee-Wise," Dept. of Agriculture, B.C.)



This Club Hive picture is from John H. Furber, President of the Middlesex County Association in Massachusetts.



Carl says: "Of course we have our social side too. We have eatin' meetings. This one at Elise Chapin Wild Life Sanctuary near Chattanooga where our Experimental Apiary is located."



HE BEGAN AT 74

by RAY BENTLEY

This is one of the apiaries of Mr. Hunter of Ithaca, New York in which we see Mr. Hunter and a helper. The picture was taken from a colored one and so does not show the details as clearly as it should.

Mr. Hunter began beekeeping at the age of 74 years with two colonies of bees, proving that the bee "bug" is no respecter of age. The following year he took a correspondence course in Cornell University and thus reinforced, he is now producing honey in ton lots.

Mr. Hunter's apiaries are located in the once outstanding buckwheat

honey producing section known as the Finger Lake Region of New York. Now buckwheat can only be considered as a minor source of nectar and the region is a marginal honey producing area.

In spite of this handicap, Mr. Hunter manages to secure a respectable crop as this picture of one of his bee yard shows. He is currently demonstrating his youthful outlook by introducing new honey plants about his bee yards in an attempt to fill up the periods of dearth.

New York

Quick Action On Bee Stings By Suction

by Lincoln Pettit
Michigan State University

One warm day I distained protective covering when handling my bees, and happened to receive two stings, one on the chin and one on the back. As luck would have it, I was expected to make a public appearance, and dreaded the prospect of a swollen face.

My small son, then 12, who had learned about the cut-and-suck kits for reptile punctures, said, "Why don't you try sucking out the poison with an eye-dropper?" Obtaining an ordinary dropper, which was in the medicine chest along with some prescribed medication, I worked on the sting on my chin, and obtained a

couple of small drops of serum. The boy then worked upon the sting on my back. Apparently, this simple trick drew out a sizable proportion of the poison, for the two stings did not create any "fuss" whatsoever.

I thereafter carried a medicine dropper (with a strong, fresh rubber bulb) and a small mirror with me whenever I might expect to be stung. I have used the method several times since, with excellent results. The longest period between being stung and drawing the poison has been ten minutes, and I do not know how effective the trick would be if the time increased materially.

DO BEES HAVE BRAINS

by MARION FRASHER

Several years ago while walking across a small apple orchard, I was attracted to a few bees working in a small hollow place in an apple tree which held perhaps a teacupful of water from rain the previous night. Well, I thought, I never saw bees using a place like that to get water before.

Later, maybe next morning, I came by the same place but the water was gone yet the bees were still working. This time I saw that they were clearing the cavity of rotten wood. I judged it could not be made to house over a quart of bees. But as I had two hives of bees not over a hundred yards away, I thought I would look to see if either of them were maybe ambitious to use that small hollow. I found three or four capped queen cells so I divided the two hives making four which operation seemed to stop activity in the apple tree.

About August 10th, years later, when I was wintering twenty to thirty colonies of bees I would take my empty hive bodies and stack them to the rear of my other hives, handy so I could borrow in case I wished to discard an occasional faulty comb. I would get three or more self-hived swarms this way, as often as not of different color from my bees.

About five years ago one May morning I noticed the activity of bees in stacked empties. So knowing that I had left some honey in there and being fearful of robbing I examined and found about one teacupful of bees mostly scattered through the supers. Maybe after honey I thought, so I tightened up the stack intending to keep a watch on them and did. Instead of quieting down they gradually increased in numbers, never appearing as a swarm in the air nor developing any of the hum of robbing bees. I was careful to watch them so know that they increased in two hours only about one third of normal swarm. In two more hours I realized that a normal swarm had taken over. I then put them on the bottom board so as to gradually shift to a permanent site. They were the heaviest of any newly hived bees I ever knew of. I think they had swarmed and had quite a store at their first home and deciding to take possession of my stack of hives they brought it along and took perhaps three quarters of a day at the job. Anyone else have a like experience with bees?

Delaware



A METAL HIVE APIARY

by A. H. SCHMIDT

There is not too much to say yet about this apiary and the hives are not ready for general distribution. However this type of hive offers an opportunity for experiment seldom equalled. The circular frames of the hives are 14-12-10-8 and 6 inches in diameter. All of them fit in the same hive and they are all interchangeable. I ordered Starline packages for them for the first of May delivery but I did not get them until May 20th, some in bad condition. One of the queens and all attendants were dead. This queen and six queenless packages were replaced.

About June 15th I put one 6 inch comb honey super on each hive. By July 15th they began to swarm, as many as five a day, with the supers about half filled. Rain brought the flow to a halt with very little comb honey finished. By September 4th I had forty five colonies and I extracted about 200 pounds of honey from the combs in the brood nest during the swarming period. I also added 20 Starline queens, with a prospect of a good fall flow. I can handle these hives without the use of a hive tool or veil or smoker.

White Bear Lake,
Minnesota



PORICO HIVES

These go back to the days of Langstroth's first hives. They also have a cover like a house with a round hole for ventilation. This is the apiary of W. H. Bookwalter, Breakwater, Nebraska. Picture from J. Howard Wagner, Grand Island, Neb.

THE DANCE OF THE WORKER BEE

by FRANK LALLY

From notes taken on an observation hive in the biology laboratory at Lewis College near Lockport, Ill., dated 1957:

April 23rd—Bees bringing in yellow pollen and their dances point to the upper left. (time 10:50 a.m.). This should indicate a pollen source to the left of the sun. It was later found that the bees were flying in a southeasterly direction. (Checks, at the Chapel Building, on daffodils.)

At 12:15—Bee with a gray pollen dancing downward on comb. Cannot locate this source. As the writer recalls this day the bees were bringing a yellow pollen and many were doing what he believes is called the wag tail dance. The dances were performed on a line about 30 degrees to the left of vertical and upward on the comb.

Now, if the time was 10:50 (D. S.T.) and we were to draw a line from the hive to a point about 30 degrees to the left of the sun this line would indicate a direction about southeast of the hive.

Were the dancing bees actually indicating to other bees the direction of a pollen source in relation to the sun?

After a search of the trees and shrubs on the campus without finding bees I thought of some daffodils around the Chapel Building and there bees were found on the yellow blossoms. A rough check showed the Chapel to be about in a southeast direction from the hive.

A coincidence? Possibly but page the eminent scientist, Karl von Frisch, on the language of bees. Also call all sideline beekeepers. Illinois.

Creosote for Preservative

The Forest Products Laboratory at Madison, Wisconsin, advised creosote as a wood preservative with benzole as a thinner. However I could not get benzole so I thinned the creosote with fuel oil. I used the thin part of the mixture which readily soaked into the wood. One could soak hives in a tank of thinned creosote as a protection against ants and termites. The equipment should be aired until the intense odor is gone.

O. L. Wahlgren
Minnesota



Marketing

EDITOR, JOHN G. BUSS, MANAGER
BENNER SUPER MARKET, HAMILTON, ILLINOIS

DESCHAMP'S MINI-COMB HONEY

Deschamp's carton of small sections of comb honey, a favorite with the grocer. Photos from Product Information, DuPont of Canada, Limited.

Mr. and Mrs. Gerard Deschamps of Duvernay, Quebec, have been publicized for their unique honey production and packing method. They produce bulk-comb honey which is cut into small pieces and packed in cellophane, not a new idea, but these bite-sized packs are probably somewhat smaller than any other kind that we have seen.

Recently Deschamps and his wife were honored by the Quebec Association for being the first in the province to win the coveted Canadian Council Trophy for the best honey exhibit at the Royal Winter Fair in Toronto.

This French Canadian couple work

as a team in their honey business and they have devised a plan for cutting the bulk combs into novel candy-bar sizes and putting them into cellulose film so they can be sold in any retail food outlet. The honey bar is packaged by a technique worked out with the help of a technical packaging specialist from DuPont of Canada who make cellophane. The story of the work of the Deschamps was produced by the Product Information Service of DuPont who sent us the original pictures which appear here and gave us much of the information about this unique couple.

Development of this individual package took several months. It was



necessary to devise a plan for cutting the comb honey and for collecting the honey which ran off from the cut portions. Mr. Deschamps was able to solve this with an instrument



Lucy and Gerard Deschamps together prepare the individual comb honey pieces. Lucy is cutting large combs into 24 units weighing $1\frac{1}{4}$ ounces. Gerard is sealing the sections in Cellophane bags.



A spring device holds the film bag open. It was developed by packing specialists of DuPont (Canada).



From this shallow comb Gerard not only prepares his novel individual portions but also four-inch squares, packed in Du Pont Cellophane.

which cuts the honey from the larger frame into 24 portions. A drying chamber was built to allow the excess honey to run off and be collected for use as liquid honey. For this he uses a special filter of fine-mesh nylon fabric to remove all cuttings or pieces of wax or impurities of any size.

The appeal of the small package has resulted in their product being assigned for distribution by a large marketing firm.

Looking after the bees and five children is all in a day's work for Lucy Deschamps. When she married

Gerard an air force veteran, in 1947, she had no idea that she would be "mothering" bees. In fact, she was afraid of them but today she is an expert.

The Deschamps have about three hundred colonies in five locations within five miles of their home. In 1957 they even took some of the colonies to the Lake St. John district for a couple of weeks for an excellent clover crop.

Producing and packaging championship honey means that Lucy has



It is a real family business. Here one of Lucy's boys seems to be pulling mother's dress. Could it be he wants more honey?

a heavy day. Her husband works until 2:30 in the morning at the Post Office so he doesn't get up until about 9 o'clock. Then they are ready to go out to their bee yards.

During spring and summer, Lucy drives a truck to the Jean Talon market in Montreal where she has her own market stall and has steady customers for her honey. In the evenings she works in the small workshop attached to their house where the honey is processed and the combs prepared and packed. They call their small bags of honey "Mini-Combs."

— Folk Medicine —

Most readers remember the honey and health articles in *ABJ* from Dr. D. C. Jarvis of Barre, Vermont. Interest in his research into folk medicine finally resulted in his new book with that title, published by Henry Holt & Company. On the book flap it says: "Folk medicine boasts of two simple remedies that can be obtained and applied anywhere—honey and apple cider vinegar." All through Dr. Jarvis' writings he stressed these repeatedly.

Kent Pellett, now editor of the *Soy Bean Digest*, Hudson, Iowa, just sent a news release on the Jarvis book which relates that, according to

the New York Times, a Texas oil man, Clint Murchison, among his sideline interests, is in some way interested in honey. When he learned that Jarvis had written some articles about honey and vinegar, he suggested that Holt might be interested. The result is "Folk Medicine" which has sold over 200,000 copies.

We quote from the book: "Treatment results obtained with a combination of honeycomb and comb honey show a high degree of efficiency. About 90 per cent of cases (for disorders of the breathing tract) react very satisfactorily within a few days' time, often in less. Vermont

folk medicine is authority for finding that individuals who had comb honey in their diet until they reached their sixteenth year seldom have a cold, hayfever or other nose disorders. It also teaches that chewing of honeycomb creates an immunity to breathing tract conditions that lasts for years." Chapter 9 in the book is entirely on the usefulness of honey.

California Co-op

THE California Bee Times reports the formation of a Valley Honey Co-op with a building in East Sacramento where it will be next door to a deep water sea port. Most of the members live in the Sacramento area.



Industry.....

Edited by
ROBERT BANKER
Cannon Falls, Minn.

NO ACARINE DISEASE IN CALIFORNIA BEES

Bee specialists in the California Department of Agriculture this month breathed a sigh of relief after searching more than two months for a disease that could not be found to exist at least, not in California bees.

Len Foote, supervisor of Apiary Inspection, was notified in late August that Acarine disease had been found in California bees arriving in Australia. This most dreaded of all adult bee diseases is caused by a tiny mite which invades the bees' tracheae or breathing tubes.

Acarine disease, although common in some countries, has never been found in North America and for this reason both Canada and the U. S. prohibit the importation of live honey bees, which could introduce the disease-causing mite. However, exchange of honey bees is allowed across the U. S.-Canadian border.

Immediate steps were taken to find the apiaries from which the affected bees originated. These were located and about twenty thousand individual honey bees were collected and examined for the disease. This required opening the thorax of each bee and examining the tracheae under a microscope to determine if the mites were present. No mites were found and no disease was present.

The mystery was finally resolved when it was discovered that Australian authorities had mistaken an apparently harmless external *Acarapis* mite for the disease-causing variety.

The Australian report, although incorrect, could have had a serious impact upon California beekeepers, who annually produce and ship over 200 tons of package bees and more than 200,000 queen bees to beekeepers in various states and countries.

There are four species of *Acarapis* mites. Of these, only *Acarapis woodi* is known to invade the tracheae and cause disease. The others establish themselves in specific places upon the bee's exterior. *Acarapis externus* prefers the neck region; *A. dorsalis*, the back; and *A. vagans*, along the wing veins or anterior surface of the abdomen.

Investigations during the past month have revealed infestations of external *Acarapis* mites occurring in the *scutal fissure*, a groove on the back of the thorax, on many bees in samples collected at widely separated points in California and also in Alberta, Canada.

These mites are apparently *Acarapis dorsalis*. They are similar in size and shape to *A. woodi* but there appear to be some rather distinct differences noted by Dr. Baker of the National Museum, which were not previously mentioned by earlier investigations.

The mites seem to be rather widespread and apparently do the infested bees no harm, since in no case have they been found to enter the tracheae and cause damage.

A NEW BEE KILLER

by ROBERT M. MEAD
Vermont Apiary Inspector

Now, bees are being killed not only by poison sprays but by weed eradicating sprays. In the summer of 1959 thousands of field bees working sweet clover along railroad banks in Vermont were killed when they were suddenly drenched by the railways spray car which was spraying a weed-killing solution. Most of these bees did not die immediately but crawled on the ground and over the tracks for hours. Some made it back to the hive and died there.

I am not sure of the exact effect on the bee by this spray, but bees that were hit appeared partially paralyzed, or as one observer said "scalded." It may affect the bees' nervous system as dying bees appeared to lack coordination.

We have spray crews working not only railroad right-of-ways but highway banks, electric line strips and telephone line right-of-ways. They spray in bright hot weather when bees are out in numbers.

I hope there is a solution to this problem but at present I don't know of any.

Vermont



George Abrams Still Teaching

George Abrams, not satisfied with his usual work as Professor of Apiculture at the University of Maryland, recently got a write up in the Washington Star for his lectures to students attending the Rural Women's Short Course. His lectures have been heavily attended owing to his facile way of creating interest. Abrams is pictured in the Star explaining an old-fashioned straw skep. Here he is showing how honey is extracted.

Dr. D. F. Peer To Wisconsin

Dr. D. F. Peer has been appointed Assistant Professor in the Department of Entomology at the University of Wisconsin. His research and teaching responsibilities will be closely coordinated with the U. S. Bee Culture Laboratory at Madison under a cooperative agreement between the Entomology Research Division, Agricultural Research Service, U. S. Department of Agriculture, and the Wisconsin College of Agriculture.

Dr. Peer received his undergraduate training under Professor G. F. Townsend, Ontario Agricultural College. He was a recipient of the F. Eric Millen award in apiculture at the Ontario Agricultural College. He entered the University of Wisconsin graduate school in July 1951 and completed the requirements for the Ph.D. degree June 1955. His thesis

dealt with both the foraging and mating range of the honey bee.

In October 1954 he joined the staff of Dr. C. A. Jamieson of the Bee Division, Canadian Department of Agriculture, at Ottawa. In March 1956 he left Ottawa to engage in commercial beekeeping at Nipawin, Saskatchewan. He undertook com-

mercial beekeeping to determine the economic opportunities and to broaden his insight into the problems of the industry as further training for a professional career in apicultural research and teaching. Dr. Peer returns to Wisconsin with an outstanding background in both technical and applied apiculture.

A "TWO BIT" BID

by A. J. BOETTGER

I have been wanting to put in my two bits worth. The article "What is Wrong With Beekeepers" by Minnie "Bee" Knightly in Gleanings for February, gives me the courage.

What I am about to say may be as bad to your taste as castor oil. It may hurt your pride and make you sore. It may be as out of place as a sheer shorty nightgown at a bee convention. But I'm going to play it as I see it and let the chips fall where they may.

The beekeeping industry is a sick puppy. It has never grown up. So "castor oil" may do it some good. We are still the victim of the same low prices that were prevalent at least forty years ago. I have seen the price of honey go from 7 cents before World War One to 25 cents during the war. Then back to 7 cents, up to 25 cents in World War Two and now back to almost 7 cents; Imperial Valley Alfalfa 9 cents. I saw the price of honey go to 3 cents during the depression. Today with honey priced from 9 to 12½ cents per pound, we are getting less for our product in dollar value than at any time. And beekeepers and producers have no one to blame but themselves.

Let me go back to 1930 or 1932. Before then I had shopped around to find the best market. I found it in one man in Los Angeles (T. W. Cookingham), who was a good business man and honest. All I had to do was to take him a sample, tell him how much honey I had and get my money. He always paid a price about equal to that of sugar. On one particular occasion I took a sample with a price of sugar at .058 (\$5.80 per 100) so I felt I would get \$5.80 per 100 for honey but when I showed the sample, I was told "a nickel." Said I, "How come, you've always said honey was the same as sugar. Sugar is \$5.80." His reply "Boettger, let me tell you something. I buy or sell honey on brokerage or percentage. I'd rather pay you 10 cents than I would to pay you a nickel because I would make

twice as much; so would you. I would pay you 10 cents today if the fool beekeepers could just make up their minds what they want for their product. I can't pay you .058 as long as I can buy it from your neighbor for a nickel."

And that is the way it is today, almost thirty years later. We're still as frail in selling power as a lady's hair net and just as loosely knit.

The thorn in our side is that we have been trying to be individuals and we are being hung by our own thorn. By that I mean that we sell our product almost anywhere and at any price offered.

Now, why in heavens name, should it be so utterly impossible for honey producers to get together? Are we a bunch of dupes? Are we spineless; a group of cut-throats who wind up in the end with our own throats cut? Or is it that the industry is full of little Georges? Let George do it. It has been said that one couldn't pry \$5.00 off of a honey producer for association dues but the same man will leave the meeting, go across the street and plunk down \$15.00 for a round of drinks and think nothing of it.

So, why can't we get together and tax ourselves enough to advertise honey? What has been done in advertising so far is child's play. We haven't grown up so no one pays any attention to us. The Institute has done well with what it has had to do with but it has only been pennies. The idea of 1 cent per can or 6 cents for a drum for advertising is comparable to the brain work of a Do Do Bird. Just stop and think. With 6 cents a drum you spend 4 cents to tell one man you have a drum of honey. Then you only have 2 cents left and that doesn't buy a postcard to tell him he can have it if he wants it.

What I would like to see would be a national cooperative, taxing ourselves a cent a pound for honey, 10 cents a queen, 25 cents a package

(or 2½ million dollars a year about) to advertise honey by way of television on a national hookup. By this method we could well afford to forget the present 10% of the people who eat honey and sell to the remaining 90% who have never tasted it or forgot to buy it. By the same means we could jump the price of honey from 9 to 12½ cents to 60 to 65 cents.

People won't pay it? They do in Germany, which was a few years ago a small war torn and broken country. We have only to stop thinking and acting like children and begin to think and act like grown folks.

The basic question is not can we get a price? It is, can we produce enough to supply the demand? We have the best product in the American food market with more natural selling power. Our greatest defect is we are a lot of little Georges who want someone to do it for us. Penny wise and pound foolish.

We must realize that to gain a profit we must invest. We are going to have to wake up from the long slumber and take a look to see who the sharp ones are who are rocking our cradle and keeping us in slumber.

It will take money, sure, lots of it, but think what it's costing us today to have to take close to or less than the cost of production. Every single item we have to pay for is up; food, clothing, trucks, cars, housing, equipment, drugs, you name it.

Many commodities have doubled or trebled. Many more than that. Why shouldn't honey? We have at our command the best television material that could be put on the air. People would look at it and watch it and be interested. Every man, woman or child looks upon the sight of people working with bees as awe inspiring.

Why should we stoop so low as to try to sell honey in competition with jams or jellies? Why not sell it on its own merit? Well, I'll start the bidding. I'll bid a quarter—who'll make it thirty cents?

Florida

Montana

The Montana Crop and Livestock Reporting Service estimates this year's honey crop at 6,806,000 pounds, up nine per cent from last year but still 12 per cent under 1957. This 1959 honey was produced by 82,000 colonies with an average yield of 83 pounds per colony. Both total crop and yield up slightly from last year. Ernest W. Fair
Colorado



USE OF HONEY IN MEDICINAL PREPARATIONS

by Drs. Alfonso R. Gennaro, Catherine N. Sideri, Nathan Rubin and Arthur Osol

School of Chemistry, Philadelphia College of Pharmacy and Science

A brief summary of the findings of research performed under a contract supervised by the Eastern Utilization Research and Development Division of the Agricultural Research Service is reported, as follows:

(1) Honey may be used as a vehicle to produce palatable preparations of excellent stability of riboflavin, a mixture of riboflavin and thiamine, ferrous sulfate, a mixture of sulfadiazine, sulfamerazine and sulfamethazine, and various formulations for treatment of cough. (2) Honey may also be used to produce palatable, but not very stable, preparations of ascorbic acid, thiamine, and aspirin. (3) Medicinal preparations containing honey may be preserved against microbiological deterioration with 0.05 per cent sorbic acid. (4) Specifications for pharmaceutical grade honey were developed.

Although honey has been used as an ingredient of medicinals since ancient times, very little information of the type required in present-day medicinal product formulation is known about it, a lack which has no doubt been responsible for the failure to use honey more widely in the pharmaceutical industry.

Before honey can be used as a vehicle in a medicinal product that may not be consumed for many months after its manufacture, it is essential to learn several things about the contemplated product: (1) Will the active ingredient or ingredients remain stable in the presence of honey? (2) is spoilage by microbiological organisms likely to occur and, if so, what may be done to prevent it? (3) will the use of honey impart a taste at least as good, if not better, than that of the same type of preparation without honey? (4) can the manufacturer *always* obtain honey of the required quality and so uniform that there will be no noticeable difference

in his product from one batch to another? These are the questions that a 2-year investigation of the potential utility of honey in medicinal products, performed in the laboratories of the School of Chemistry of the Philadelphia College of Pharmacy and Science, under a contract with the U. S. Department of Agriculture,* has sought to answer, and the results of which study are summarized in the following.

CHEMICAL STABILITY STUDIES

Vitamins - Honey solutions of the common water-soluble vitamins were studied under various conditions of preparation and storage; the vitamins used were thiamine (vitamin B₁), riboflavin (vitamin B₂), cyanocobalamin (vitamin B₁₂), and ascorbic acid (vitamin C). Riboflavin, used in the form of sodium riboflavin-5'-phosphate, proved to be the most stable of these vitamins in honey solutions, if the solutions were stored in brown bottles. The stability of thiamine in honey was not as good as in other solutions containing no honey, though in combination with riboflavin it was more stable than when used alone. Honey solutions of ascorbic acid, and especially of cyanocobalamin, did not meet the long-term stability requirements for commercial preparations of this type. It should be noted, however, that honey would be an excellent vehicle for "extemporaneous" preparation of all these vitamins; that is, for compounding solutions that a physician may direct a pharmacist

to make, on prescription order, for use during a limited time of two or three weeks.

Ferrous Sulfate - A popular iron tonic preparation of *The Pharmacopeia of the United States of America* is "Ferrous Sulfate Syrup," which is a solution of ferrous sulfate in sugar syrup, flavored with peppermint spirit. A similar preparation made with honey as the vehicle and sole flavor was entirely stable over the period of 11 months that it was studied, and it was exceptionally palatable and free of the astringent after-taste that is characteristic of most iron-containing preparations.

Sulfonamides - The "sulfa" drugs are among the most important of medicinals, and are commonly marketed in the form of liquid "suspensions." Because mixtures of sulfadiazine, sulfamerazine, and sulfamethazine are especially useful, preparations containing these "sulfa" drugs suspended in a vehicle composed mostly of honey were studied. These turned out to be not only completely stable, but they had the further very desirable characteristics of settling very slowly, of being readily resuspended by moderate shaking, and of being exceptionally palatable. A "taste panel" preferred the product made with honey over other, commercially-available, preparations.

Preparations for Cough - A number of preparations for cough were made with honey as the vehicle. Two of these, containing among other ingredients antihistaminic agents and either codeine or dihydrocodeineone, were not only exceptionally palatable, and effective, but remained free of sediment for the period of more than a year during which they were observed. A terpin hydrate elixir, long popular as a preparation for treating cough, was also prepared in palatable and stable form using honey as the vehicle.

*A report of work done under contract with the U. S. Department of Agriculture and authorized by the Research and Marketing Act of 1946. The contract is being supervised by the Eastern Utilization Research and Development Division of the Agricultural Research Service.

Aspirin - Suspensions of aspirin in vehicles containing honey were prepared in seeking a stable liquid formulation of this important medicinal. While it was not possible to devise a preparation having long-term stability, a palatable product undergoing only 5 per cent hydrolysis in two days was prepared; such a preparation would be eminently satisfactory for "extemporaneous" preparation on prescription and would be ideal for administration to infants and young children.

Miscellaneous Preparations - A number of "elixirs" recognized as standard medicinals in either *The Pharmacopeia of the United States of America* or *The National Formulary* were modified to include honey. These "elixirs" were phenobarbital, pentobarbital, compound glycerophosphates, rhubarb and soda, iron and ammonium acetate, pepsin and rennin, compound pepsin, compound opium and glycyrrhiza, iron, quinine and strychnine, and terpin hydrate and codeine. In no instance, however, did the use of honey provide any notable advantage.

PRESERVATION AGAINST MICROBIOLOGICAL DETERIORATION

It was early apparent that medicinal products prepared with honey, containing also some water, were prone to decomposition by microbiological organisms. In order to determine how to prevent such deterioration, honey solutions were deliberately contaminated with organisms of *Bacillus subtilis*, *Proteus vulgaris*, and *Penicillium notatum*, respectively, and one or another of the antimicrobial agents sorbic acid, sodium benzoate, and mixtures of methylparaben and propylparaben was added. Complete preservation against deterioration was achieved by adding 0.05 per cent (weight-in-volume) of sorbic acid to the honey solutions.

TASTE CHARACTERISTICS

All preparations were evaluated for taste which is, of course, a highly subjective criterion. Nevertheless, in all cases where honey proved to be a desirable medicinal product ingredient the taste of the preparation was judged by the majority of persons thus testing the preparation to be superior to that of similar solutions made without honey.

QUALITY SPECIFICATIONS FOR HONEY

Various floral types of honey were used in this study, all described as

having been heat-processed and filtered. Some of the samples, however, required filtration, others being so clear that this treatment was not needed, a matter of considerable advantage to manufacturers who may find filtration of honey to be a cumbersome procedure. In those instances where filtration was necessary Celite Standard Super-Cel was used as a filter-aid, in amounts of 0.5 to 0.75 per cent, and the filtration was performed under 10 to 14 pounds of pressure. The following specifications for honey suitable for use in medicinal products are recommended:

General Description - Honey is the nectar of floral exudations of plants gathered and stored in the comb by honey bees, *Apis mellifera* Linne (Fam. Apidae). It must be heat treated for thirty minutes [140°F. - 160°F. (maximum)] and free from foreign substances such as parts of insects, leaves, etc., but may contain pollen grains. When graded according to the United States Standards for Grades of Extracted Honey (18 F.R. 52.1391 - 52.1404), it must be classified as "U. S. Choice" or "U. S. Fancy."

Moisture Content - Not more than 18.6 per cent, by weight. This corresponds to a refractive index ($nD^{20\circ}$) of not less than 1.4900, and a specific gravity ($20^\circ/20^\circ C.$) of not less than 1.4129.

Optical Rotation - Honey is levorotatory at $20^\circ C.$

Residue on Ignition - Not more than 0.40 per cent.

Artificial Honey - Introduce 10 ml. of a mixture of equal volumes of honey and water into a test tube and add 5 ml. ether. Shake gently and allow to stand until the ether layer is clear. Transfer 2 ml. of this clear ether solution to a small test tube and add a large drop of freshly prepared resorcinol solution (1 Gm. resorcinol in 100 ml. of hydrochloric acid of sp. gr. 1.18 - 1.19). A cherry-red color appearing within one minute indicates the presence of artificial honey. Yellow to salmon shades have no significance.

Acidity - A solution of 10 Gm. of honey in 50 ml. of water requires not more than 5.0 ml. of 0.1N sodium hydroxide for neutralization, using phenolphthalein as indicator.

Color - Shall not be darker than Light Amber, when determined by use of the U.S.D.A. permanent glass color standards.

Floral Type - At the discretion of the manufacturer. (The addition of therapeutic agents to honey might alter its taste, and it appears advisable to leave the choice of the floral type to the manufacturer. Regardless of the floral type selected, honey should meet all other specifications).

Packaging and Storage - Honey should be stored in well-closed containers, and the temperature should not exceed 90°F. for a prolonged period. Honey that has granulated may be liquefied in its container by heating at a temperature not over 160°F. for 30 minutes, with occasional stirring.

ACKNOWLEDGMENT

The authors express their appreciation to Dr. Jonathan W. White, Jr., of the Eastern Utilization Research and Development Division of the Agricultural Research Service for his many helpful suggestions and other aid during this investigation.

The Significance of Pollen in the Food of the Larva

The number of pollen grain shells in the gut of the full grown worker larva was determined with a hemacytometer. The shells represent all the pollen ingested by the larva as the midgut and the hindgut are not connected in the larval stage. The average N of the pollen ingested was 3.59% and the average weight of N from pollen was found to be .19 mg. in summer and .042 mg. in winter larvae; the rest of the 3.5 mg. average N content comes from the secretion of the pharyngeal glands of the nurse bees. Results indicate that the larva can develop normally without pollen.

(J. Simpson, Rothamsted-Digest by Dr. F. B. Wells)

The Relation Between Nectar Secretion and Nitrogen, Phosphorus, and Potassium Nutrition

For the maximum production of nectar by the plant there should be (1) a level of N low enough to avoid excessive vegetable growth, (2) a level of P sufficient to promote good flowering and (3) a level of K which is neither low enough to limit growth severely nor high enough to reduce flower production.

(R. W. Shuel, Ontario Agricultural College—Digest by Dr. F. B. Wells)



The Beginner

Editor - W. W. Clarke, Jr.

204 Agricultural Education Building
Pennsylvania State University
University Park, Penn.

In your case I would wait until the honeyflow from aster is over and then feed sugar syrup until the super is full.

I am assuming that the super in question is an extracting super and not a comb super. Bees do not winter well in a comb honey super.

Many beekeepers prefer to use two hive bodies for wintering since this gives the bees plenty of stores and also plenty of space to rear brood and store early honey.

**Question from*

George Gibson
Knoxville, Tenn.

► I would like any information you can give me on how and where I can get real golden queen bees.

Answer

We do not recommend individual breeders of queens. I would suggest you check the Bee Journal to find a breeder who advertises yellow or golden queens.

I am not sure the color of the queen is a good measure of her value, both production and temperament are more important. I, personally, like to work with yellow bees, but I would never dispose of a good producer because she happens to be dark colored.

**Question from*

Francis Johns
Stone Creek, Ohio

► Is it safe to remove all honey but that left in one hive or should one leave a super on to carry the colony through winter? I have three colonies. Two of them filled one super and one filled two supers. I took one super off the colony with the two supers and about half of the supers on the others. Is that enough for winter or can I remove the rest?

Answer

I would leave a full super with the bees. It is generally accepted that a colony will consume about 60 pounds of honey during the winter and early spring; if this is true, you can't very well get along with a single hive body.

I also think it is important that the super be full of honey, because the bees will almost always finish the winter in the super and they are not likely to go down into the hive body again until the super is once more filled with brood or honey.

Service, 2503 S. Agriculture Building, Washington 25, D. C. This is published bi-monthly and is mailed upon request.

(3) Whether or not a beekeeper pays rent is dependent upon conditions. If the bees are required for pollination, especially for a crop which is not a good producer of nectar, then the farmer pays the beekeeper. If the beekeeper is looking for a good location, and pollination is not a factor, it seems only fair that some type of rent be paid, even though it be only a few pounds of honey. The farmer in this case may consider as adequate rental the fact that all crops are being pollinated.

Several books which may be of interest to you are:

The Hive and the Honeybee - Grout, Dadant & Sons, Hamilton, Illinois.

ABC - XYZ of Beekeeping - Root Honey Plant Manual - Lovell A. I. Root Company, Medina, Ohio

**Questions from*

Buddy Gripe
Maramec, Oklahoma

Why is it that some of our bees won't make honey? Some of them are doing well. Some colonies have more drone cells than they did have. Why? We have some colonies here on a farm and the farmer is preparing to spray buck brush and persimmon with a tractor sprayer. Will this hurt the bees? I had a swarm I hived but they did not stay. I hived them again and put a small piece of excluder over the hive entrance. Then the queen began to lay so I took off the excluder and they left again. I put them back once more but they are working very little? Why?

Answer

(1) A great deal of information you are seeking can be obtained by attending the meeting of the State Beekeepers' Association. Dr. George B. MacCollom is the Extension Bee Specialist and his office is located at the University of Vermont, Burlington. He can probably give you much of the local information you need.

(2) Market prices, etc. may be obtained by writing for Honey Market News, United States Department of Agriculture, Agricultural Marketing

There is a great variation in bees and their ability to produce. The queen is important but, even though you requeened the colony in April, there is no assurance this queen was accepted. Also, not all queens will be good producers. It may be the colonies were not strong enough in the spring to become good producers. It takes a large number of bees in the

colony to produce a large crop of honey.

Two conditions which cause an excess of drones are poor queens and poor comb.

I do not believe the herbicides or weed killers, with the exception of arsenicals and dinitros, are considered highly toxic to bees. I am assuming you are referring to weed killers.

It is hard to believe your swarm left after the queen had started to lay. One possible cause would be starvation. Are you sure she is a mated queen? Often these swarms, which do not stay in, are headed by a virgin queen. You may have prevented her going out to mate by placing your queen excluder over the entrance.

The other colony may not be producing or working because either it is too weak or the weather and honey crop are poor.

**Question from*

Denver Matlock
Sikeston, Mo.

Is there a variety of buckwheat better suited to bees than others. I sowed a patch of buckwheat early last spring for the bees but they seemed to work it only in the morning. Later I plowed it up and planted another patch. When it bloomed the bees would not work it at all.

I have been reading about Caucasian and Carniolan bees. I bought a colony from a neighbor that is not doing well, partly from not using regular brood frames and foundation. I want to transfer them to a better hive and put in a Carniolan queen if the bees would accept her. A few advertisers still offer package bees. Do you think it is too late to install them (August 23)? We have a long and warm fall here in southeast Missouri.

Answer

The Silver-Hulled buckwheat is the best variety for honey production. Many factors, such as weather, soil condition, and variety, determine buckwheat production. Actually there is only a limited area where buckwheat honey is produced in any quantity. Buckwheat should be planted in early July in our area so that it blooms in August. The weather at this time is humid and hot enough so that nectar is secreted. It normally produces nectar in the morning, the afternoon being too hot and dry. In our limestone areas, buckwheat seldom produces a large surplus.

We have had only a limited experience with the Carniolan race of bees.

At one time the Carniolan was considered to have the bad characteristic of excessive swarming. I am not sure this has been bred out of them. I do know a few beekeepers who have had Carniolans and they liked them very much.

The Caucasian race seems to be finding more followers in our area. I believe if I were interested in the grey or black races of bees, I personally would prefer the Caucasians over the Carniolans.

Yes, your "just plain bees" will accept a Carniolan queen but be sure to kill the old queen before introducing the new one. Good brood comb and plenty of bees are needed to produce a crop of honey.

I would not buy package bees any later than early May, personally, and would prefer them much earlier. I can see no reason for buying bees just to have them. They should produce a crop of honey the first year. We, too, have a good fall crop of honey, but I still would buy bees only in the early spring.

**Questions from*

Blaine Moore
Montour, Iowa

One small but bothersome problem is ANTS. In a beekeeping book by C. P. Dadant, it said to put amounts of salt where the ants congregate. I have tried this but still the ants stay around the hive and under the hive as well as inside. I realize that strong colonies can fight off ants. My colony appears to be disease free, with many young bees. I would not even bother to mention about the ants but one day recently I was watching a bee and an ant and noticed the ant was attacking the bee. These ants seem to be bigger than any ants I have ever seen (almost $\frac{1}{2}$ the size of the bees or even larger). When examining a super I noticed the ants occupied one whole corner and the bees seemed to stay a good distance away from the ants. Would you say this is a weak colony or I need to use more salt?

I would also like to know if you think it would be okay to use the same brood combs for several seasons with different bees?

When taking off supers full of honey from hives that do not have bee escapes, especially section box supers, what would you recommend as the best way to clear the bees from supers? I have heard where beekeepers have set the supers out on the ground beside the hive and the bees would fly back into the hive. I thought this would prove to invite

robber bees as well as moth, because in this area, there are about 8 or 9 apiaries within a radius of about 10 or 15 miles. I was told you have about 300 hives to take care of so I hope this letter does not take up too much of your time. I only have one hive now and probably will not have over 10 hives next year so I realize my bee problems are almost nothing compared to a big operator such as you. I still would appreciate it if you could answer some of my questions.

Answers

Ants usually are a problem, but are fairly easy to control. We use a 5 per cent chlordane dust over the nest of ants or around the hive stand. Be sure the bees do not come in contact with the chlordane, since it is extremely toxic to bees. Chlordane solution made up of the liquid or wettable powder at the recommendation of the manufacturer and sprinkled around the hive does an excellent job. Many old-time cures, such as borax, salt, tansy leaves and many others on the inner cover, are given credit for keeping ants out of the hive by some beekeepers, but I personally prefer the use of insecticides.

It is not only all right but desirable to use combs year after year and it does not matter which colony they go on so long as the bees are free of disease.

When removing comb honey, I would be sure to use a bee escape. On very rare occasions it is possible to set the super on the ground beside the hive and have the bees leave the super, but you certainly are asking for trouble. It is probable the bees will rob the honey instead of leaving the super.

Storage Jars for Nails and Screws

Remove the screw top lids from honey jars and fasten the lids under a shelf by your work bench. Fill the jars with sized nails or screws and replace the jars in the lids under the shelf. When you want to make up things you can see at a glance which size of nails or screws you need.

E. Goward
England

Hive Stands

Use a five inch clay pot; mix concrete (3 sand, 1 cement, very stiff); fill pot and ram mixture in, then turn out, like we used to make mud pies when we were kids. Four of these make a first class hive stand.

E. Goward
England

HONEY QUICK BREADS

from CHARLOTTE H. MERRILL

Charlotte Merrill and her husband, Harold, and their son established the Sunny Slope Farm at Wolcott, New York, with bees for honey production and for fruit pollination.

How long has it been since you last made bread for the family? You think it takes too long? Then let me suggest quick breads made the honey way. Their tantalizing fragrance as they bake will bring the family members hurrying to the kitchen for a taste. They are very good for a light dessert. They are sweet and satisfying without being too rich for the dieters and the children. Notice that the recipes call for very little shortening and for a smaller amount of honey than you would use of sugar for the same sweetness.

For the quickest of quick breads, try the Upsidedown Orange Honey Biscuits. You may use a package of unbaked biscuits from the refrigerator of your supermarket or one of the popular biscuit mixes if you are in a great hurry. If you prefer, make the baking powder biscuits from your own favorite recipe.

The muffins are equally good for breakfast, luncheon, or supper. Ordinarily muffins should be eaten as soon as they are baked, but muffins

made with honey retain their moisture if stored in a tin bread box. They will be perfectly delicious reheated the second day or even several days later. Bake enough for more than one meal at a time. Just be sure to reheat them. They are at their best when piping hot.

The Honey Date Nut Bread and Honey Banana Bread require a little more preparation time than the biscuits or muffins. Make them when you have a little free time and keep them in your freezer or refrigerator until you want some very special sandwiches. The bread should be well chilled if you want thin slices. The date bread may be warmed and served with hard sauce or lemon sauce as dessert. Put it in the top of a double boiler over hot water for half an hour to heat. Or you may wrap slices of the bread in aluminum foil and warm them in a 350° oven for a few minutes.

Upside-down Orange Honey Biscuits

12 small unbaked powder biscuits, $\frac{1}{2}$ cup orange juice (fresh, canned, or concentrated), $\frac{1}{2}$ cup mild flavored honey, $\frac{1}{4}$ cup butter.

Cook the ingredients together for two minutes and cool. Place 1 tbl. of the mixture in each of twelve muffin cups. Put a baking powder biscuit on each and bake at 400° about 12 minutes or until done. Let stand in tins about 2 minutes and then invert on a tray or sheet of waxed paper.



Prune Spice Muffins

$1\frac{1}{2}$ cups sifted all-purpose flour, 3 tsp. baking powder, $\frac{1}{2}$ tsp. salt, $\frac{1}{2}$ tsp. cinnamon, $\frac{1}{4}$ cup honey, 1 egg, $\frac{3}{4}$ cup milk, $\frac{1}{4}$ cup melted shortening, 12 cooked prunes—used as topping.

Sift dry ingredients. Combine liquids; add all at once, stir just until dry ingredients are moistened but not smooth. Batter will be lumpy. Fill well greased muffin cups two-thirds full. Top each muffin with a drained pitted prune which has been cooked and sweetened (preferably with honey). Bake in a hot oven (400° F) for 20-25 minutes. Makes 12 muffins.

Pineapple Muffins

$1\frac{1}{2}$ cups sifted all-purpose flour, 3 tsp. baking powder, $\frac{1}{2}$ tsp. salt, 2 tbl. honey, 1 egg, 1 cup crushed pineapple and juice, $\frac{1}{4}$ cup shortening.

Sift dry ingredients. Combine liquids; add all at once, stir just until dry ingredients are moistened. Fill well greased muffin cups two-thirds full. Bake in a hot oven (400° F) for 20-25 minutes. Makes 12 muffins.

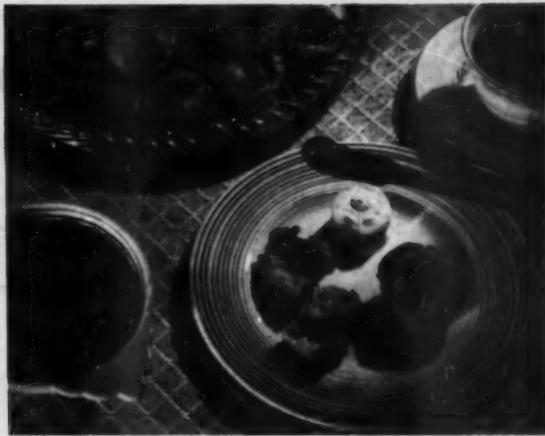
TIMELY RECIPES

Edited by Pat Diehnelt



Prune Spice Muffins

Photos from Wheat Flour Institute



Honey Pineapple Muffins

Honey Banana Bread

2 cups sifted all purpose flour, 3 tsp. baking powder, $\frac{1}{2}$ tsp. salt, $\frac{1}{2}$ cup shortening, $\frac{3}{4}$ cup mild flavored honey, 2 eggs, 1 cup mashed, ripe bananas.

Sift dry ingredients and set aside. Fill measuring cup $\frac{1}{2}$ full of shortening and then fill to 1 cup with honey. Cream the two together, add the eggs, and beat well. Add the dry

ingredients alternately with the mashed bananas. Pour into a 5 by 9 inch loaf pan which has been lined with waxed paper and greased. Bake at 350° for about an hour.

Honey Date Nut Bread

$\frac{1}{2}$ lb. pitted dates, diced, 1 tsp. soda, $\frac{3}{4}$ cup boiling water, 1 egg, $\frac{3}{4}$ cup honey, 1 tsp. salt, 1 tsp. baking

powder, $1\frac{1}{2}$ cups all purpose flour, $\frac{3}{4}$ cup nut meats, cut.

Pour boiling water over dates and soda. Allow to cool. Add egg and honey to mixture and combine well. Stir in the mixed, sifted, dry ingredients and nut meats. Pour into a 5 by 9 inch loaf pan which has been lined with waxed paper and greased. Bake at 350° for about 1 hour.

New York

Let's use Honey for the Christmas turkey or goose!!

Honey is one of the few natural foods that has not been homogenized, pasteurized, or glutinized.

No vitamins added (there are plenty in it from nature), no wheat germ removed, no bi-carbonate required, no antibiotics desired.

No buffering added, and no filters needed to kill the flavor. Does not dull the taste buds, or harm the respiratory system.

It does not have to be kept in the deep freeze, and it does not have to be baked 20 minutes after it is removed from the package. Keep the attractive honey package as long as the honey lasts!

It always tastes good, comes in over a hundred flavors, and can be eaten before meals, during meals, and after meals, and does not require any preparation. It can be eaten if you have claustrophobia, hydrophobia or home sickness, and it will not cause nausea, dizziness, chilblains or falling hair, and it will clear your throat, sooth the membranes and fill your sweet tooth.

No equipment needed to enjoy the flavor. If you don't have a teaspoon the index finger is a good substitute. It's a good food, not a fad, but it has high style.

It is a simple natural food, hard to produce (ask any beekeeper) but readily obtainable everywhere, the nectar of the Gods, and we have a difficult time selling it at a profit. We should shout about it from the house tops (radio and TV to you) to get more people to buy and use this beneficial food.

The Turkey and the Christmas goose needs Honey.

Improve your Health and save your Money.

From a Cantankerous Beekeeper.



Something To Think About

A FEW QUESTIONS AND THEORIES ON NECTAR FLOWS

by ROY LITTLEFIELD

Seasons of honey production are never the same. The most outstanding differences are in the weather, honey plants, and the condition of the bees. Why plants - some of which have been growing for years in the same place with little or nothing added to the soil - will vary in beauty, fragrance, yield of nectar and seed, has been a little difficult for some of us at times to understand. However, if we have kept a hive of bees on scales for twenty or more years, and taken the daily gains under different conditions, some of the mysteries of nectar flows disappear, especially those pertaining to the following questions:

First Question - What is the major factor in nectar flows?

Theory - The Weather. The awakening of a plant from its dormant stage to an active stage, starts and continues only when the plant has the proper temperature, sunlight and moisture conditions.

And plants not only get much of their living from the air under sunlight, but they also are able to break down some of the water into elements and use these elements as food. 93½% of the plant's food comes from the air and water, while only 6½% comes from the soil. Epiphytes, or air plants, thrive well without any soil, as they get all their food from the air.

Second Question - Why is it, we get a good honey crop one year, but a poor honey crop another year, under somewhat similar weather conditions?"

Theory. Even should the average rainfall be the same, soil moisture will vary from field to field and year to year under one or more of the following conditions: The amount of rainfall lost to run-off, soil covering, texture of the soil, soil particles, organic matter, wind, temperature, and humidity.

Also plants are like birds and animals in that many species vary in



Roy sits and ponders in one of his yards at Exira, Iowa.

their temperature and water requirements. White Dutch clover thrives and the nectar flow is greatest when the soil is moist and the days are warm and humid. The sweet clover and alfalfa flow is heaviest when the soil is somewhat dry, the days hot and humidity low. A good soaking rain will usually end the nectar flow from these two latter plants, especially if both the temperature and humidity are high.

Third Question - Why doesn't white Dutch clover and other shallow rooted honey plants, secrete nectar as long and as freely as they once did?

Theory. Due to the many years in which much of our land has been under cultivation, or closely grazed, much of the organic matter has been lost in the soils, and these soils no longer have the water-holding capacity they once had.

Fourth Question - Why do bees work certain honey plants and not others?

Theory. Not only do bees seek for a quantity of nectar, but they also

seek for quality. It is well known that the sugar content of nectar is an important factor in attracting bees to the flower. However, this does not seem to be all that they seek, as we can feed a heavy sugar syrup during a good flow, and the bees will refuse to take it. It seems that the flavor of the nectar is another factor in attracting bees. In experimenting with a very thin syrup during a dearth of nectar, I have found that bees usually will first empty the pans that have had a non-sugar flavoring added, in preference to those which have no flavoring, even though this flavoring no doubt is inferior to that which they get in flowers.

Fifth Question - Why was there little or no nectar flow from sweet clover in Iowa during the hot, humid summers of 1935 and 1948?

Theory. While water is very essential to all plant life, it is also important that plants are able to throw off the excess water by transpiration. When soil moisture, temperature and humidity are high, some plants are not able to do this properly, and will grow mostly to tops, producing a good forage crop, but little or no seed, and nectar of inferior quality. When soil moisture, temperature and humidity are very high, some deep rooted plants, if cut or grazed closely, are likely to be injured or killed. Sweet clover and alfalfa cannot stand continued close grazing under the hot, humid conditions of the corn belt, as well as they can in the dryer western and the cooler northern states.

Sixth Question - Is it possible to breed honey plants for greater nectar secretion?

Theory. This seems possible, but not practical. First - Plants are bred to yield under certain conditions and these conditions will vary some from year to year. Second - Plants as well as animals, are usually bred for one purpose, and naturally that purpose is the one for which there is the greatest demand. Dual purpose plants

and animals are more difficult to breed and are not always satisfactory, especially with farmers who are specializing in certain types of farming. In Iowa there are a number of legumes grown quite extensively which have been selected for their excellent growth under corn belt conditions. The purpose of this growth is for soil building and forage crops. These legumes, especially two of them, are not a dependable source of nectar under ordinary Iowa conditions. It is only in seasons when the growth of these plants is checked by certain weather conditions that we get a good flow from one of the legumes, and a light to fair flow from the others. If the rainfall or soil moisture is

normal or above, then the humidity and/or temperature should be low, especially the night and soil temperatures, as these low temperatures retard the absorption of water by the plants, producing the same effect as low soil moisture. If the temperature is high, then the soil moisture and/or humidity should be low. During the hot dry '30's when sweet clover was about the only source of nectar available for the bees, it was possible to estimate day after day, the exact daily gains of a hive on scales by just checking the temperature and humidity morning, noon and evening. This was not possible when there was a change in the soil mois-

ture, or when other types of plants were yielding nectar.

Can we expect much improvement by breeding strains of these legumes to secrete nectar? Not it seems, if there is a correlation in nectar secretion and seed production.

Some years ago a research agronomist from the Iowa Experiment Station was speaking at one of our meetings in regard to one of these legumes (a clover which is a poor yielder of nectar and seed in Iowa). When he referred to the work they had been doing with this plant at the Experiment Station, he said, "When we breed for greater seed production, we get something we do not want." Iowa

An Editorial by

LAWRENCE R. BUDGE, President, American Beekeeping Federation

Now Comes The Biggest Job

We can pretty well say at this time of year that the honey crop for 1959 has been produced and harvested. Some producers will still be extracting the last of their crop and in some sections perhaps a late fall flow will still produce some surplus, but on the whole the crop is mostly harvested.

The average producer has used his entire ability and strength the past eight or nine months with one objective—to produce a big crop of honey! He has had little time to think about the marketing of the crop. Now comes the biggest job of all . . . Finding a market at a price that will give him an income showing a fair profit above cost of production.

As I receive letters from producers representing various sections of our country, I find that a small number feel that we should still work for price support from the government, but the larger per cent will say we can find a solution to our marketing problem. We do not need or want government help. We can do the job ourselves. All we need is a good strong promotional program and our honey marketing will cease to be a problem. That is a healthy condition when so many of the producers feel that way about it. But what are we doing about it? Mostly just talk and a lot of wishful thinking.

Let me remind the producers of our nation that we are organized to do the job, but just organization is not enough. The Federation was organized to be the representative body of the beekeepers and to direct plans for bettering our conditions. About 10% of the nation's beekeepers are members. I ask you this question, "Is 10% of the beekeepers in an organization strong enough to do the job we should be doing?"

The Honey Industry Council, representing all segments of the beekeeping industry, are trying to raise funds for promotion and research through the Check off Plan. Again a *very small* per cent of the producers and packers are participating. The Check off Plan is voluntary and there again the producers and packers want it that way. The majority of producers and packers do not want to be forced, and I agree that a voluntary program is best. But will we support it to the extent that it will do the job we want done? If the Check off Plan were accepted and participated in by all beekeepers and packers alike the American Honey Institute would have funds enough to do a "bang up" job of promoting the uses of honey and our marketing problem would disappear. Will you producers who sell some or all of your honey direct to the consumer buy Check off Stamps?

In a recent article in a bee journal it points to the fact that a good sum could be raised for promotion if every producer would buy Check off stamps for the honey he sold directly to the consumer. I am not a packer but I do sell the equivalent of about one hundred 60 pound cans of honey each year direct to the consumer. I am going to send my \$2.00 to Lealie Little, 831 Union Street, Shelbyville, Tennessee and ask him to send the stamps. Every pound I sell to the packer will be assessed.

What are you going to do Mr. Beekeeper? Be practical or just sit and do some wishful thinking and live with a poor market?

(From Federation News Letter)

The Federation

Secretary Joseph O. Moffett
115 So. College Ave., Fort Collins, Colorado

We are often asked why the Federation is for the enabling act. This act would allow our industry to have a marketing order if we desire one. *Enabling act needed first.*

Your Federation officers felt that beekeepers should have an opportunity to determine if they want a marketing order. But since honey was excluded from the original act, a specific enabling act has to be passed first. This enabling act does nothing except permit the industry to have a marketing order.

How marketing order must be formulated. If an enabling act is passed, a marketing order may be drawn up by the leaders of the industry. After an order is drawn, public hearings are held. All interested parties are given an opportunity to appear plus the chance to file written briefs.

USDA must approve. The Secretary of Agriculture must approve the marketing order. Then the order is submitted to a vote of the bee-

keepers. At least $\frac{2}{3}$ of the producers, by either number or volume, must approve the order. Fifty percent of the handlers by volume must sign the agreement for it to be effective. However, if the producer vote is favorable and the required handlers do not sign, the Secretary of Agriculture can issue an order if he feels it is the only practical means to advance the interest of the producers.

What can be done under an order. Many actions can be taken under an order. What would be included depends on what is desired by beekeepers. The amount of honey available can be regulated by requiring surplus honey to be held in reserve. This honey can be released when it is needed.

Money can be collected for research and educational work concerning honey. Imports can be restricted until this country's honey is not available. However, once the price of honey reaches parity, no honey can

be held in reserve. Neither can import restrictions be applied.

Beekeepers run the program. The order is operated by a committee elected by beekeepers. This committee determines what is to be done within the limits of the order.

Enabling act must be passed by Congress. Before anything can be done concerning a marketing order, Congress must pass the enabling act. The meeting at Phoenix will determine if the Federation pushes for enactment of the enabling act. Come to Phoenix and vote on this important matter. If you can't come, let your director know how you feel about an enabling act.

Join your fellow beekeepers.

Join your fellow beekeepers in the Federation to help advance your industry. Remember you decide who heads the Federation and what it does. There is still time to be a 1959 member. Send in your dues today. Dues are 4 cents a colony with a \$3.00 minimum.



"Blessed be the Lord God of Israel, for He both visited and redeemed his people." Luke 1:98

Never a Christmas Morning,
Never the Old Year Ends,
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Meetings and Events

Cook-DuPage, Illinois

Garfield Park, Chicago, Dec. 19th

The Cook-DuPage Association will hold its annual Christmas party Saturday afternoon and evening Dec. 19, at the Gold Dome building, Garfield Park, Madison and Central Park Ave. Chicago, Ill. Dinner will be served at 6:30 sharp. Turkey will be furnished by the Association, so bring along a Christmas dish or dessert to pass. Bring gifts for your children as Santa Claus will pass them out. We will have a grab bag for the adults. So come and enjoy the party with us.

A.L.Smith
Director

Midwestern Association Kansas City, Dec. 13th

The Midwestern Association will hold its regular monthly meeting in the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri, at 2:30 P.M., Sunday, December 13.

Carroll L. Barrett
Secretary

Colorado Annual Denver, Dec. 7th and 8th

The annual convention of the Colorado Association will be held December 7th and 8th at the Auditorium Hotel in Denver. Current industry problems will be under discussion.

G.H.Rose
President

Minnesota Annual Minneapolis, Dec. 5th

The regular annual meeting of the Minnesota Association will be held at the Curtis Hotel in Minneapolis on Saturday, December 5. The program will start at 9:00 a.m. An evening banquet has been arranged together with special entertainment. Everyone interested in beekeeping is welcome.

George McReynolds
Secretary

Middlesex County (Mass.) Waltham, Dec. 12th

The Middlesex County Association will hold their meeting with a Christmas party for members, guests and children 6:30 Saturday, December 12, at the Waltham Field Station with a buffet supper of special casseroles, Christmas cakes and pies.

The second lesson of the beginners' course started in November will cover organization and behaviour of colony—castes—duties of each—brood rearing—races—guards—robbing—pollen—propolis—wax—comb—royal jelly—senses—how and why honey is made—role of pollen in nature and in hive, given by Arthur Southwick.

Hive tools as first prizes at the October meeting of Honey and Wax Show were won by Al Baptiste, Douglas Brown, Dick Corrigan, Sam Dixon and Henry Neunzer.

M. Southwick, Corres. Sec.

Michigan Annual Business Meeting East Lansing, Dec. 12th

The annual meeting of the Michigan Association will be held Saturday, December 12, in Room 33, Union Building, Michigan State University, East Lansing. The business will include election of officers for the coming year and other important topics. Members are urged to be there so the meeting can start at 10:00 A. M. Other topics for discussion and action will include Honey Queen Program, election of directors to American Beekeeping Federation; the enabling act and National Marketing Order; Michigan law prohibiting bees on combs crossing the state line; Nosema and its effect on queens and packages shipped into Michigan.

Margaret F. Seidelman,
Secretary

Michigan Beekeeping Program Farmers' Week, Mich. State University East Lansing, Feb. 3-4, 1960

This is the Farmer's Week Program for beekeepers. Note that Dr. E.J.Dyce, of Cornell University, is on the program twice on Wednesday and once on Thursday. Dr. Dyce spent several weeks with beekeepers in Australia and New Zealand this past year. His color slides will be interesting and instructive.

Wednesday, February 3, 1960
PROFESSIONAL BEEKEEPING

PROGRAM
Room 103, Kellogg Center

10:00—
Bumblebees: Can They Be Reared Commercially—E. C. Martin.

10:45—
Activities of Michigan Beekeepers'

Association—Margaret Seidelman, Ionia.

11:15—

Beekeeping in Hawaii and New Zealand (Illustrated)—E. J. Dyce, Cornell University, Ithaca, New York.

1:30—

Bacteria Associated with European Foulbrood—D. A. Muentener, Michigan Department of Agriculture, East Lansing.

Some Peculiarities in the Behavior of European Foulbrood—E.C. Martin.

2:30—

Beekeeping in Australia (Illustrated)—E. J. Dyce.

3:30—Honey Break.

3:45—

Suggestions on Rearing Queens in the Home Apiary—Roger Hoopingarner, Entomology Department.

4:30—

Stump the Panel (Ask or write out questions)

Thursday, February 4

BEE SCHOOL PROGRAM

Room 103, Kellogg Center

10:00—Movie - Bees for Hire

10:30—

Learn the Natural Behavior of Bees Before Trying to Manage Them—E. C. Martin.

11:00—

A Beekeeping Trip Around the World (Illustrated) - E. J. Dyce, Cornell University, Ithaca, New York.

1:30—

Packing Quality Honey by the Beekeeper—Warren Parsons, Vo-Ag. Teacher, Jackson, Michigan.

2:15—

Spring Management in the Apiary—Roger Hoopingarner, Entomology Department.

3:00—

Identifying and Controlling American Foulbrood - Don Barrett, Apiary Inspection Service, Michigan Department of Agriculture.

3:45—

Using Honey in the Home—Margaret Seidelman, Ionia.

4:30—General Discussion.

E.C.Martin
Michigan State University

Essex County, New Jersey

The annual Honey Contest of the Essex County Association was on Nov. 9th with 48 present. Judges included Professor Robert Filmer, Rutgers University; Paul Holcombe, retired New Jersey inspector; Jack Matthenius, supervisor; Paul Gravely, A.I.Root Co.

Blue ribbon awards for the finest in honey were presented to Manuel Calvache, Russell Corwin, Dr. White, Paul Grierson, W. Howell, and H. Lonsdael. The top winner was David Pruden. President Louis Panagini announced the Dec. 14th Cooking Contest as a wonderful opportunity for the wives to demonstrate their cooking talents at that next meeting.

L.M.Panagini
Pres.

Arkansas Association Annual

The Arkansas Honey Producers and Packers Association met in their 1959 annual session in the Lafayette Hotel, Little Rock, Arkansas, November 7.

Dr. Gordon Barnes and Dr. Lloyd Warren, state entomologists of the University of Arkansas, spoke on "Where Do We Go From Here?" in beekeeping. Repellents in Insecticides, by Reassor Hill Corporation. "Interesting 4-H Club and F.F.A. Boys and Girls in Beekeeping" was discussed by Assistant County Agent Kenneth Vandervort, Magnolia. Then groups of local beekeepers discussed, "How I Sell My Honey?" and "How I Handle My Beeswax." A much appreciated feature was the series of colored slides on "Process of Developing Hybrid Queens," by Dadant and Sons. Door Prizes and talks were given by Walter O. Johnson, of Wally's Bee Enterprise, Sioux City, Iowa, and Curtis Meier, Manager Dadant and Sons' branch, Paris, Texas.

After lunch, the business session included the election of officers as follows: W. R. Sterling, Little Rock, president; C. Fred Rogers, Corning, vice president; Ray L. McLester, Paragould, secretary-treasurer and editor of NEWS LETTER. Then the following were elected as members of the Executive Committee: C. Kenneth Smith, Marked Tree; Horace G. Grigson, Little Rock; Fred Brennenman, De Witt; Monta Sunkel, De Queen, and George Bicanek, Conway. Ray L. McLester



Honey Queen To Washington

Sponsored by the Michigan Beekeepers Association and accompanied by her mother, Mrs. Margaret Seidelman, the National Honey Queen, Katherine Seidelman, was delegated to call at the White house in Washington and deliver the greetings of the beekeepers of America as well as a choice 35 lb. basket of honey from the National Honey Show, held this year in Detroit.

The Seidelmans went by plane to Washington, and were accompanied while there by Michigan representative Bentley and Harold Clay; were greeted at the White House by Special Assistant Chesney and given a special tour of the White House, making the presentation of the honey to White House assistants as Mr. Eisenhower was not available at that time.

The Seidelmans enjoyed in addition visits to the Jefferson Memorial, Smithsonian Institute, Library of Congress and National Gallery of Art, Lincoln Memorial, Marine Memorial and Capitol Building and other points of interest.



Wisconsin Queen Hands Gift To Nixon

Wisconsin's 1958 Honey Queen, Miss Barbara Bird of Beaver Dam, presents Vice-President Nixon with a gift pack of delicious honey. To her left is Wisconsin's Lieutenant Governor Knowles who also received a gift.

Bee Books For Christmas Gifts

The Hive and the Honey Bee

by Roy A. Grout

652 pages of information covering all practical phases of bee-keeping; life of bee; physical makeup, habits; and all phases of practical beekeeping. Standard textbook of more than 30 colleges and hundreds of 4-H classes. Co-authored by 15 authorities in their special lines. The Dadants, Cale, Abushady, Killion, Farrar, Hambleton, Lyle, Eckert, Pellett, Park, Snodgrass, Sturtevant, Milum, Wilson.

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The best in queen rearing methods condensed into easily readable language. For the specialist or beginner.

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World of the Honeybee

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Dancing Bees

by K. von Frisch

Enticing explanations of how he found sense of direction in bees. How they locate nectar, etc.

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The Honey Cook Book

by Juliette Eikon

Fine new book—170 pages, 250 recipes. We recommend it.

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— Other Good Books for Your Library and Family —

R. L. Snodgrass—Anatomy of the Honeybee 330 p.	\$6.00	Tibbetts—First Book About Bees 70 p.	1.75
Mary G. Phillips—The Makers of Honey 165 p.	2.50	Snelgrove—Swarming 100 p.	\$2.50
H. B. Lovell—Honey Plant Manual 64 p.	1.00	Fraser—Beekeeping in Antiquity 150 p.	2.00
J. R. Lockhart—Bee Hunting - Paper	.50	Jay Smith—Better Queens	4.00
Beck & Smedley—Honey & Health Best Book of Honey 230 p.	3.00	Pellett—Living From Bees 300 p.	3.50
Ribbands—Behavior & Social Life of the Honeybee 325 p.	4.50	Root—ABC & XYZ of Bee Culture 600 p.	4.50
Fraser—History of Beekeeping in Britain 100 p.	2.00	Snelgrove—Queen Rearing 346 p.	4.00
Free & Butler—Bumblebees 200 p.	5.00	Paisley—Betty The Bee (Children)	.50
Mario Pinto—Eat Honey & Live Longer 175 p.	3.50	Hodges—Pollen Loads of Honeybee 150 p.	3.50
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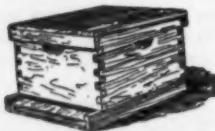
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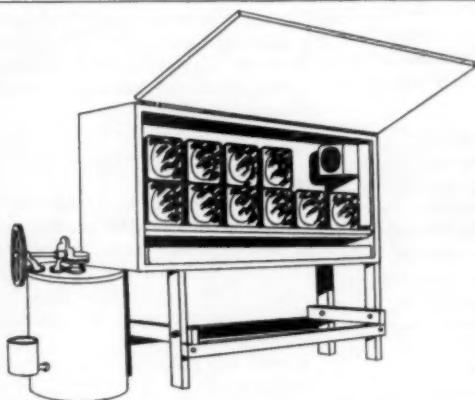
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—Crop and Market—

by M. G. Dadant

Except in perhaps the "strikebound areas" or those which are indirectly affected, we believe that the reports indicate that the sales of honey are better than they were at this time last year. Perhaps part of this is due to the cool weather and undoubtedly a part to the effect of the many thousand copies of Dr. Jarvis' book which have been sold and on which reviews have been written in various newspapers and magazines. Reports indicate that the sales of honey are far from unsatisfactory and in only one or two instances do the individual producers report that the sales have been light, perhaps due to the fact that the crop was slow in being harvested.

PRICES OFFERED

There has been a definite trend upward in prices although we must make some exceptions. Michigan and Wisconsin both report good crops have been "plagued" by rather low offerings on honey, probably due to the fact that the western buyers have been more interested in prairie states and intermountain white honey than in honey farther east. Otherwise, the prices indicate at least a 12 cent price everywhere, except for one reporter in Texas, and in many cases 13 cents, 13½ and even 14 cents. One carload moved out of Montana at 13½ f.o.b. shipping point. The whiter the honey the better the offer. On the other hand, amber honey is to some extent in the doldrums in various sections such as Florida and California where the foreign demand apparently has not picked up the extra lots. However, the average run on even amber honey is around 10 to 10½ cents per pound.

ANY OF 1958 CROP LEFT?

There is very little of the 1958 crop left as of November 10 of this year. The only reports of some would be California amber and some amber in Florida and perhaps a little in Ohio. These, however, are scattering lots and not to be considered very seriously.

HOW MUCH OF 1959 CROP SOLD?

Here we find a very great difference. Some beekeepers have their entire crop sold already and partly delivered whereas others may not even

have it extracted. We would guess that on an average basis at least 50 per cent of the crop has already been sold, particularly so in the eastern half of the country. This does not, of course, include Wisconsin and Michigan which we mentioned above as being short on sales on account of the low price offered. We look for some rearrangement of prices there.

There is no doubt in the writer's mind of the possibility of clearing up all of the 1959, as well as what little is left of the 1958 crop of honey without sacrifice of prices below 12½ or 13 cents for white honey and 9½ to 10½ cents for amber honey. This is f.o.b. shipper's station.

While it is true that many of the larger western packers have gotten in sufficient white honey to carry them along for a considerable period, we do not by any means anticipate that they have sufficient to carry them through the entire winter season and we may look perhaps for a little lull in the markets until there again appears a demand to fill out the necessary supplies for continued packing.

Also, we believe the largest cooperative in the country is in far better shape than a year ago for disposal of its 1959 crop of honey and there seems to be little doubt that this crop will move out without any great amount of disturbance in the market and perhaps a picking up as the season goes on.

FOREIGN DEMAND

Not very much on foreign demand. This probably accounts for the fact that there is a considerable amount of amber honey both in Florida and California seeking a market. The competition, of course, from Central and South America has been quite heavy in foreign sections where the exchange rate would be better than the United States.

However, we must make one exception here and that is that inasmuch as Canada is now allowed to ship honey into the British Isles, there has been a definite trend towards such shipments and we under-

stand that a few hundred thousand pounds have already been sold. This, of course, will hardly make up for the somewhat larger crop, particularly in Ontario, this year, but we do believe it is going to be a factor in assuring not only a pretty nice cleanup of the Canadian crop but also a fairly nice movement of the northern states' white crop into the hands of a few Canadian buyers.

There have been also some reports of honey going over into Canada and into the hands of independent buyers outside the cooperatives at prices which are in line with the better prices in the United States.

Canadian honey is reported as bringing about 15 cents in a jobbing way in British Columbia and perhaps as high as 17 cents farther east.

All in all, it looks as though with anything like ordinary conditions and perhaps a pickup on account of settling of various strikes, there should be no difficulty in disposition of the 1959 crop of honey.

Utah Crop

Utah's crop is down for 1959, according to Dr. George Knowlton, extension entomologist of Utah State University. From the 54,000 colonies (same as for 1958) the average yield for the marketable crop was only 31 pounds per colony which will not pay expenses for operating commercial yards unless market prices are high. Ernest W. Fair
Colorado

Idaho Crop

The 1959 crop in Idaho has been estimated at 8,844,000 pounds, a drop of about 23 per cent from the 1958 crop and nearly a third less than the record 1957 crop, according to the current report from the department of agriculture.

Ernest W. Fair
Colorado

Alfalfa Seed Harvest

Rains were largely the cause of difficulty in harvesting alfalfa seed in central areas with the result that the 1959 crop is 9% under 1958 and 2% below the ten year average. 152 million pounds were harvested, with a yield of about 181 pounds per acre.

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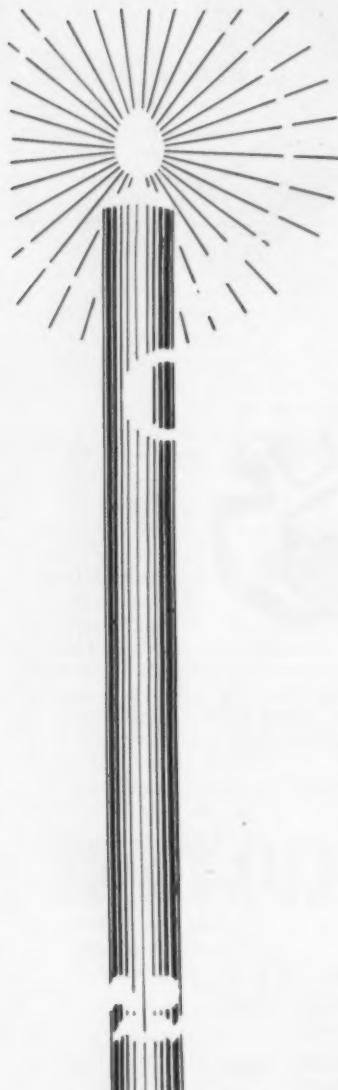
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